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BULLETIN OF RHODE ISLAND STATE COLLEGE

VOL. XIII NO. 4. FOR FEBRUARY, 1918

REPORT OF THE BOARD OF MANAGERS

KINGSTON, R. I.

1918

PUBLISHED QUARTERLY BY THE COLLEGE
MAY, AUGUST, NOVEMBER, FEBRUARY

ENTERED AT KINGSTON, RHODE ISLAND, AS SECOND-CLASS MATTER

The Oxford Press, Printers, Providence, R. I.

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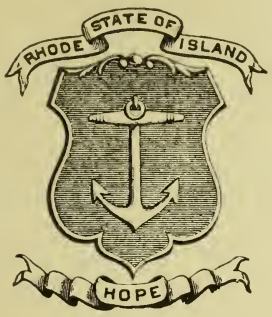

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RHODE ISLAND STATE COLLEGE

Corporation

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HON. ZENAS W. BLISS, *Vice-President*.....Providence Co., Providence
HON. ROBERT S. BURLINGAME, *Clerk and Treasurer*...Newport Co., Newport
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REPORT.

To His Excellency R. Livingston Beeckman, Governor, and the Honorable General Assembly of the State of Rhode Island and Providence Plantations, at its January session, 1918:

I have the honor to submit herewith the Thirtieth Annual Report of the Board of Managers of Rhode Island State College, as required by law.

WALTER E. RANGER,
President, Board of Managers.

REPORT OF THE PRESIDENT OF THE COLLEGE.

To the Board of Managers of Rhode Island State College:

GENTLEMEN: I submit the following as my report for the calendar year 1917.

In General.

You will, of course, understand that the war conditions existing since April of this year have greatly affected all the activities of the college year 1916-17, and especially since the beginning of the current college year 1917-18. Of the three main divisions of the work, that of the experiment station has been least affected. For details in this division, you are referred to the report of the station Director herewith submitted. The demands upon the extension division have been greatly increased, and with the help of the United States Department of Agriculture a much larger number of workers has been employed and placed at work in the State. Especially is this true of the propaganda for food conservation. In connection with the report of the extension Director submitted herewith the several recommendations made deserve careful consideration.

The work of the instructional division has been subjected to the most serious disturbances; yet these disturbances have been rather a source of pride than of dismay, since they vindicated once and for all the wisdom and value of the work that is being done here. The contribution of men and women from among its alumni and students prepared and ready to meet the sudden demand for trained workers in military organization, in munitions factories, in chemical and bacteriological industries, in engineering tasks of many kinds, in increasing agricultural production, and in all women's work for war efficiency, has been quite impressive, and has called public attention to the solid basis of educational theory on which the whole structure of our courses and methods has been built up. Without flourish of trumpets, without loud promises of visionary results, the college, through the few years of its inception and growth, has proceeded in its work of preparing men and women for the daily

tasks of life and of citizenship, giving its students the scientific training that has enabled them to serve community and nation by skill and leadership in our complex social economy. Quietly its students have been taking their places in the ranks of agriculture and industry, and the trained product of the college had already obtained a recognized standing and value in farm and factory and railroad organization before the beginning of this war.

But now there comes the sudden peril of the nation, and it cries aloud for men of action in its dire necessity. There is need of men with military training. Throughout recent years the nation has neglected the training of its young men for its own protection, and college men have scorned military drill as beneath their dignity. Throughout all its past, however, in obedience to its organic law, this college has carried on military training, and on the outbreak of hostilities, it was able to offer to the Governor at once a body of two hundred and fifty men, armed and trained, for the suppression of disorder and sedition. From its students and alumni, the Government has been able to draw a relatively large number of commissioned officers, many of whom are already now serving in France.

Not only so, but its courses, effective in peaceful times, become doubly so in the stress of war times. There is deadly need of larger food production, of wisdom and energy in conserving food and indeed all other resources, of science and skill that may be applied to the larger and more rapid output of every form of essential industry. To all these calls, our courses have been able to make immediate reply. Our agricultural courses have supplied men for the food-production campaign; our home economics department has given invaluable aid and instruction in food-conservation; our laboratories have furnished skilled scientific workers in factories, in munitions undertakings, in gas defense work, in all the forms of effort by which science and engineering skill are seeking to equip the nation for success in war. So far as our resources in men and women would allow, we have been able to respond effectively to the needs of the hour. The only regret is that public appreciation of the far-sighted and effective work being done by the college did not sooner awake, providing us with larger patronage and larger equipment, so that the contribution made to present public needs might have been larger in actual numbers. It could not well have been relatively larger in proportion to the numbers involved.

It does not seem out of place to make at this time some effort to evaluate the results of the whole land-grant college movement and its bearing on present conditions.

The Land-Grant College as a War Asset.

In families, in societies, in nations, it not infrequently happens that some obscure and despised member, looked down upon with ill-concealed scorn or even with open derision, becomes in some great emergency the one refuge and defense to which all owe their final safety. The despised Jew boy in the prison of Potiphar becomes Joseph, the all-powerful favorite of Pharaoh, who saved Egypt from famine. The awkward country lawyer of Springfield, Illinois, whom Douglas ridiculed and Seward undervalued carried a great war forward to victory and is now the idol of a great nation. Lloyd-George, the great Welshman, on whose arm the British empire so heavily leans today, was once a poverty-stricken countryman at whose aggressive radicalism the English flunkey laughed long and loud.

Something of this kind has taken place in our country with regard to the so-called land-grant college. With great unanimity it has everywhere been called upon to play the part of Cinderella in the family of colleges. Indeed its claim to kinship has been by some ostentatiously ignored and by others overwhelmed with ridicule and contumely. Nothing was too bad to say about it. The heavy-witted boor beat it with the bludgeon of ribald jest, and the elegant dilettante pierced it with the damascene blade of fine persiflage.

But somehow it survived, and grew and waxed strong, with huge thews and sinews, a brain keen and alert and patient and persistent, and a heart strong and earnest and honest and true. More and more the nation has come to depend upon it for service and counsel. Wider and larger have become the burdens it has been carrying for the people. Its methods have penetrated the strongholds of tradition and have largely transformed the ideals even of the illuminati. It has taken hold of the humble tasks of life and invigorated and transformed them with the light of science and the inspiration of service.

For a hundred years the agriculture of this country remained stationary. That which the fathers practiced the sons followed out. When old lands were exhausted of their fertility, new lands farther

west were taken up, and thus the agricultural products of the country were maintained and even greatly increased in the aggregate. But this ruinous policy could not be indefinitely continued. Meanwhile, happily, the agricultural departments of the land-grant colleges with their attendant experiment stations, were slowly becoming established and were forcing a recognition of their value. It is not too much to say that they have saved the situation, so far as farm practice is concerned. They it is who have originated and have taught sound methods of soil conservation, of balancing animal and plant life on the farm, of overcoming invading diseases, of utilizing natural forces through machines and of developing better and finer products of all kinds. The very vocabulary of the farm has been changed, and the unschooled farmer of today uses in his ordinary business transactions scientific terms which his fathers would not have understood.

While thus much has been done on the side of production, there have been rapidly developing on the side of farm finance, marketing, and economic distribution a whole series of far more difficult problems, to the solution of which these colleges are giving their best thought and energy. While other factors in our social life have developed highly organized group activities, the farmer has remained essentially individualistic in all his business methods and relations. The whole process of the marketing and distribution of farm products has passed entirely out of his control, and with it the possibility of exercising any influence whatever on the financial return for his labor and enterprise. He is just discovering what the industrial laborer has long realized and taken measures to remedy, viz., that an unorganized mass of workers is utterly unable to maintain its economic existence in the present highly developed and complex organization of human society. Already there is an alarming weakening of the agricultural factor in our economy and we find it necessary to take heroic measures to strengthen it. It is these economic problems with which the land-grant colleges are busying themselves today and which they must solve just as they have already solved the problems of production.

Engineering.

To the land-grant college, however, are assigned by law not only the problems of agriculture but also those of the whole realm of

mechanical industry—that range of human effort embodied under the general term engineering. The overwhelming majority of our people, especially in New England, misled by the common and incomplete designation of agricultural college, regard it as distinctly out of character for these institutions to undertake engineering work. Yet the organic law provides, as all who are familiar with it know, not only for agriculture but also for the mechanic arts, and indeed is mandatory in its terms: "The fundamental idea was to offer an opportunity in every State for a liberal and larger education to large numbers . . . to those needing higher instruction for the world's business, for the industrial pursuits and professions of life." It should be more widely known that a large proportion of the great engineering schools of the United States are found in the land-grant colleges.

In considering the achievements of land-grant colleges, it should not be forgotten or overlooked that the great industrial and transportational interests of the land are dependent on these fifty-two national institutions for a very large part of their scientifically trained workers.

Military Training.

It is to be noted that the undergraduates of collegiate grade in the United States numbered in 1913, the latest statistical report furnished by the Commissioner of Education, 190,147, including men and women, in all courses. These were enrolled in 597 colleges and universities. Of this number of students, the fifty-two land-grant colleges (8.7% of the total number of institutions) enrolled 33,315, or 17.5%. Of these, 28,537 were men. One of the wise fundamental requirements of the land-grant colleges is military training. It is interesting to note that for many years, in defiance of indifference and in many cases positive hostility, these colleges have gone on training some twenty-five thousand men, year by year, in military science, for exactly the emergency that has now arisen. It cannot be otherwise than that the trained men thus quietly diffused during the last forty years among our people will aid greatly in enabling the nation to meet the present crisis.

Training in Home Administration.

The land-grant college has recognized and provided for the need of science in home administration. Just as the application of science

has revolutionized agriculture, so it is now coming to be recognized that science can and must reorganize the whole life of the home in order to meet the demands of modern conditions. The woman of the land-grant college is learning to act through organized effort rather than singly, to adapt means to well-defined ends, to conserve effort and material, to create favorable conditions for child life, to understand child-psychology, and mould the atmosphere of the home to the sustaining of an effective idealism.

The Present Emergency.

The outstanding demands of the present national emergency are, outside of high idealism and glowing devotion to the principles of democracy, (1) military organization and training; (2) enlarged and intensive productive capacity (a) in agriculture, (b) in manufactures; (3) wise utilization of resources and the elimination of waste. Startled by the suddenness and intensity of these demands, and bewildered by the complexity and intricacy of the problems involved, a great nation little accustomed to self-discipline and organized action in the affairs of common life, has been seized with a sort of panic and found difficulty in devising wise means of meeting the situation. In the emergency the land-grant college and its agencies throughout the country have largely served as a source of counsel and an efficient and capable instrumentality for organizing the efforts of the people in the various States. It is not too much to say that all its lines of effort, while primarily designed to create efficiency in times of peace, could not better have served the demands of the hour, had they been specially designed for this one occasion. Its military training throughout the years has served and will serve in large measure to aid in saving us from the consequences of our wilful and stupid unpreparedness. Its agricultural teachings are our sole recourse in the battle against failure of food. Its product of men trained in the arts of the engineer—mechanical, electrical, chemical, civil, etc.—must be relied upon today in the building of ships, of locomotives, of munitions of war, and of the thousandfold equipment demanded by our armies and those of our allies; and its teachings of economy and conservation in daily life will add enormously to the effectiveness of resources at our command—an effectiveness of which we stand in such dire need.

Rhode Island State College.

It only remains to point out that the land-grant college of Rhode Island has not been a laggard in responding to the demands of the emergency. The spirit of loyal devotion and service among its faculty and students has been fine and pure. Day and night its faculty has labored to meet the great outside demands that have come to them. They are represented in the actual war forces, in the organization for the public safety, and in the direction and organization of the campaign for food production. All are engaged in private and organized effort for cultivation of land on their own resources. The College itself has rented a farm of two hundred and seventy-five acres in addition to land previously owned or rented by it, and is operating this farm from its own resources. It has seemed wise, in view of future demand for the best skill and training in all lines of action, to keep our school organization intact, to move on in the same familiar lines of training that have already served so admirably to meet our needs, and to keep students under training at the college for as long as the public needs will permit. Hence the college has urged on the two lower classes especially the duty of devoting themselves unremittingly to preparation here. Nevertheless the demand has been so great and so insistent that, on June 1, 1917, there were at the college only one hundred and eight students, or 32.2% of the total for the year.

Analysis of Response of the Student Body of Rhode Island State College, to Demands of the National Emergency, June 1, 1917.

Total number of students enrolled for year..... 336

1. Released to date. (Certificate of service to be submitted on return to college).

For agricultural service as follows:

For agricultural experimental service	3
For agricultural supervision	12
For agricultural work	79
	—— 94 or 28%

For military service as follows:

Army	1
Aviation Corps	1

Canadian Army	1		
Coast Artillery	2		
Hospital Corps	5		
National Guard	1		
Naval Reserve	20		
U. S. Marine Corps	5		
Plattsburg Training Camp	27		
	63	or	19%

For other work directly connected with the emergency as follows:

Bacteriological laboratory	1		
Munitions plants	4		
Engineers' work	6		
Ship-building work	6		
Intensive training in food preservation	17		
Supplying vacancies among teachers	1		
	35	or	10%
Total released for emergency	192	or	57%

II. At College: In Reserve Officers' Training Corps and prosecuting regular work:

Freshmen	57		
Sophomores	25		
Juniors	9		
Irregulars	4		
Women Freshmen	13		
	108	or	32%

III. Left college at various times since the opening of the year and unaccounted for in the foregoing 36 or 11%

Final total 336

As showing the promptness and readiness of response on the part of our student-body, the foregoing table will be interesting. It will be noted that every phase of emergency service—military and civil—has representatives from among a small body of three hundred and thirty-six students, male and female. In almost every case the question has been, not what can I do, but which of the forms of service of which I am capable will enable me to do the largest service to country in this emergency.

Table Showing Military Service of Men from Rhode Island State College. (So far as we have been able to secure data.)

Rank.	Alumni.	Under-graduates.	Former Students.	Total.
Captains	4	.....	1	5
First lieutenants	10	7	2	19
Second lieutenants	16	11	5	32
Ensigns	1	1	.....	2
Training for commissions	8	17	7	32
Privates and non-commissioned officers	13	25	33	71
Total	52	61	48	161

Of the total number of men students enrolled in 1916-17, including fifteen of the senior class of the year 1917 listed under the head of alumni in the foregoing table, seventy-six, or 26%, are enrolled in the military service of the nation.

College Attendance.

Table I.

Showing Attendance by Classes During the Years from 1906 to 1918, Inclusive.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918
Graduate Students	...	4	3	5	6	3	3	4	4	1	4	6	2
Seniors	8	9	12	13	17	19	20	23	28	26	41	38	25
Juniors	9	11	14	20	20	20	27	35	28	46	37	51	46
Sophomores	15	16	26	32	24	37	46	44	61	62	79	94	65
Freshmen	17	26	36	38	59	63	58	72	87	118	122	122	98
Irregular	16	11	10	15	25	20	28	9	12	2	9	8	7
Total, college.	65	77	101	123	151	162	182	187	220	255	292	319	243
Preparatory	46	45	18	28	...	...	...	...	...	...	...	...	...
2-year courses	...	...	15	15	29	21	18	34	31	21	12	17	8
Totals	111	122	134	166	180	183	200	221	251	276	304	336	251
Poultry	20	20	19	19	20	28	28	22	18	9	7	...	...
Summer School.	...	...	...	...	...	39	24	...	...	...	...	...	...
Final totals	131	142	153	185	200	250	252	243	269	285	311	336	251

There has been a decrease in attendance for the current year, 1917-18, of 25% from the enrollment of the previous year. Women students increased 18.5% while men students decreased 32%. The decrease in the freshman class was 19 2/5%. The decrease in the agricultural course is 40%; in engineering it is 23.6%; in applied science it is 27%; while the home economics course shows an increase of 8%. The time is now ripe for a marked advance in the attendance of women here, and with the addition of new facilities in the near future, appropriation for which was made a year ago, we shall undoubtedly see a marked increase in attendance.

TABLE II.

Showing Number of Men and Women, of New and Previous Matriculates, and Number in the Several Courses by Classes, for the College Year 1917-18.

CLASS.	SEX		DATE OF MATRICULATION.		REGISTRATION IN COURSES.				
	Men.	Women.	Previous to 1917-18.	1917-18.	Agriculture.	Engineering.	Applied Sci.	Home Econ.	Total.
Graduates	....	2	2	....	....	....	2	....	2
Seniors	19	6	25	....	5	11	3	6	25
Juniors	37	9	46	....	12	22	5	7	46
Sophomores	53	12	65	....	15	30	8	12	65
Freshmen	80	18	9	89	12	49	24	13	98
Irregulars	3	4	2	5	2	1	....	4	7
Total (college)	192	51	149	94	46	113	42	42	243
Two-year	8	....	7	1	8	....	....	....	8
Final total	200	51	156	95	54	113	42	42	251

Home Residence of Students.

A. Resident outside of the State:

Connecticut	6	New Jersey	1
Massachusetts	39		
		Total	46

B. Resident in the State by counties and towns:

Bristol County:	
Barrington	3
Bristol	3
Total	6
Kent County:	
Coventry	1
East Greenwich	4
Warwick	3
West Warwick	1
Total	9
Newport County:	
Little Compton	1
Newport	10
Portsmouth	1
Total	12
Providence County:	
Burrillville	2
Central Falls	1
Cranston	6
Cumberland	1
East Providence	5
Johnston	2
Lincoln	5
Pawtucket	13
Providence	69
Scituate	5
Smithfield	1
Woonsocket	13
Total	123
Washington County:	
Hopkinton	2
Narragansett	3
North Kingstown	9
Richmond	1
South Kingstown	22
Westerly	18
Total	55
Final total	251

Entrance Statistics for Class Registering in 1917.

Total enrollment of class	98
Entering with condition on one-half unit	13
Entering with condition on one unit	14
Entering with condition on one and one-half units	9
	36

Note: The new requirement of an additional year of foreign language was not allowed to exclude students so deficient in this class, since the requirement had not been sufficiently advertised.

Of these, number credited with total of fourteen units or more	19
Of these, number credited with less than total of fourteen units by one-half to one and one-half units	17
Number entering without condition	62
Average age of men and women at entrance, Oct. 1, 1917	19 yrs. 9 mos. 26 days
Age of youngest member of class, Oct. 1, 1917	16 yrs. 9 mos. 8 days
Age of oldest member of class, Oct. 1, 1917	25 yrs. 4 mos. 24 days

Schools Represented in Registration of Freshman Class.

In Rhode Island:	
Barrington High	1
Bristol—Colt Memorial	2
Central Falls High	1
Cranston High	2
East Greenwich Academy	1
Newport—Rogers High	6
North Kingstown High	3
Providence—English High	7
La Salle Academy	2
Morris Heights	4
Moses Brown	1
Technical High	22
South Kingstown High	6
Westerly High	9
Woonsocket High	5
	72
In Connecticut:	
Essex High	2
Stonington High	1
	3
In Massachusetts:	
Avon High	1
Boston—High School of Commerce	1
West Roxbury High	1
Brockton High	2
Fall River—Technical	1
Franklin—Dean Academy	1
Gloucester High	1
Harwich High	1
Haverhill High	1
North Dartmouth High	1
Rockland High	1
Worcester Academy	1
Wrentham High	1
	14
Repeating freshman subjects from last year	8
Entering by examination	1

Changes in Faculty During the Year.

When the decrease in number of students came, the question at once arose, How does this affect the retention of professors and instructors on our payroll? The question has been answered by leaving vacant the places of teachers who for any cause resigned, unless it was impossible to make any shift by which necessary and essential work might be carried on for the time being without filling the vacancy.

As a result of this policy, necessary reductions in the teaching force have been made without working a hardship on worthy and efficient professors and instructors.

Resignations were accepted as follows:

Miss Mabel Campbell, professor of home economics, to take effect September 1, 1917.

R. B. Cooley, professor of animal husbandry, to take effect July 1, 1917.

H. W. Rickey, professor of poultry husbandry, to take effect June 1, 1917.

G. E. Spencer, instructor in botany, to take effect August 1, 1917.

W. T. MacCreadie, instructor in mechanical engineering, to take effect September 1, 1917.

N. H. Whitehead, instructor in civil engineering, to take effect September 1, 1917.

R. A. Pla, instructor in Spanish, to take effect July 1, 1917.

Miss Hermine Knapp, instructor in domestic art, to take effect September 1, 1917.

M. A. Hawkins, agronomy demonstrator, extension service, to take effect April 1, 1917.

The following were granted extended leave of absence:

Paul E. Corriveau, instructor in horticulture, now lieutenant in the U. S. Marine Corps, for the duration of the war.

L. P. Howard, assistant chemist, experiment station, for study at Harvard University.

The following new appointments have been made:

As State specialist in dairying, extension service, the Department of Agriculture, the State Board of Agriculture and the college co-operating, R. B. Cooley, the appointment taking effect July 1, 1917.

As instructor in domestic art, Miss Laura Anderson, B. S., University of Montana, 1916; 1913-14, extension instructor, Ohio State University; 1914-16, assistant in domestic art, University of Montana; 1915, summer, instructor in domestic art, University of Montana. Appointment to take effect September 1, 1917.

As professor of home economics, Miss Bessie E. Bemis, B. S., Michigan Agricultural College, 1905; 1905-08, home economics instructor, Michigan Agricultural College; 1908, summer student, Teachers' College, Columbia University; 1908-10, home economics instructor, Pennsylvania State College; 1910-17, home economics instructor, University of Minnesota; 1912-13, acting head of department; 1913-15, part time teaching and study for advanced degree; 1915-16, director of home economics, University High School; 1916-17, director girls' dormitory, University of Minnesota. Appointment to take effect September 1.

As professor of animal husbandry, John E. Ladd, B. S., New Hampshire State College, 1913; M. S. A., Purdue University, 1917; herdsman and farm foreman, Cherry Hill Farm, Beverly, Mass., 1913-14; instructor in animal husbandry, New Hampshire College, 1914-15; assistant in dairy husbandry, Purdue University, 1915-17. Appointment to take effect September 1, 1917.

On September 1, 1917, F. H. Bills, instructor in mathematics, was advanced to the position of assistant professor of mathematics. On the same date, T. E. Palmer, B. S., 1916, assistant in animal husbandry, was made instructor in poultry.

On October 19, the position of college physician was created and Dr. Henry B. Potter of Wakefield, R. I., was chosen to fill it.

Finances.

The college is maintained, as is well known to the members of your Board, by certain funds coming partly from the General Government, partly from the State and partly from the transactions of the departments themselves. These funds are only partially interchangeable, being confined, in the main, to the support of certain definite phases of college work. The fiscal year for funds coming from the U. S. Government ends June 30. The fiscal year for the Trust Fund and the Current Fund also, naturally ends with the college year on June 30. The State funds have their fiscal year ending December 31.

I am showing below a table presenting a summary of the eleven college funds, all as of January 1, 1918, and because of the very trying conditions existing during the year and extending indefinitely into the immediate future, I shall make comments to bring out the status of these funds.

	Name of Fund.		Receipts.	Expenditures.	Remainder Dec. 31.
1.	Morrill, 1890 and 1906:				
	Remainder, Jan. 1, 1917		$24,825 54		
	U. S. Treasury, July 1		50,000 00	.....	.....
	Total for year		$74,825 54	$49,459 56	$25,365 98
2.	Morrill, 1862 (interest from State)		2,500 00	2,500 00	.....
3.	State—Maintenance		40,000 00	40,000 00	.....
4.	Current Fund:				
	On hand Jan. 1	$713 93			
	Receipts during year	21,920 65	22,634 58	24,408 60	Dr. 1,774 02
5.	Trust Fund:				
	On hand Jan. 1	$3,221 25			
	Receipts during year	39,921 75	43,143 00	43,106 18	36 82
6.	Smith-Lever (Extension):				
	On hand Jan. 1	$5,553 86			
	U. S. Treasury	10,592 16	16,146 02	10,779 95	5,366 07
7.	Hatch Fund (Experiment Station):				
	On hand Jan. 1	$7,390 04			
	U. S. Treasury	15,000 00	22,390 04	16,046 56	6,343 48

Name of Fund.		Receipts.	Expenditures.	Remainder Dec. 31.
8. Adams Fund (Experiment Station):				
On hand Jan. 1.....	$6,722 89			
U. S. Treasury.....	15,000 00	21,722 89	15,869 24	5,853 65
9. Miscellaneous (Experiment Station):				
On hand Jan. 1.....	$5,470 90			
Receipts during year....	4,499 13	9,970 03	4,878 97	5,091 06
10. State—Building Fund		85,500 00	5,802 46	79,697 54
11. State—Sewage and Furniture:				
On hand Jan. 1.....		3,490 22	3,490 22	.....

I do not need to say very much with regard to the Morrill funds, the Smith-Lever fund, the Hatch and Adams funds. They are fixed in amount and the task has been to make the decreased purchasing value of the dollar cover such expenditures as could not be curtailed. It will be noticed that in each of these funds, with the exception of the Hatch and Adams funds, the amount on hand for the expenses of the remaining half of the fiscal year is practically one-half of the total fund for the year. In the case of the Hatch and Adams funds, the experimental work maintained by them has been more costly, and the experiments themselves could not be curtailed without losing the value of the work previously done and running through several years. Hence the balances in these funds show a dangerous decrease of some $2500. In his report and recommendations, the Director brings out this fact and earnestly recommends an appropriation to maintain the work in a proper degree of efficiency.

The interest on the Morrill Fund of 1862 and the Maintenance Fund of $40,000 were exhausted by the first of November, leaving the expenses of the remaining two months of the year to be covered by the receipts in the Current Fund. This with the most careful pruning of expenses all through the year it has been impossible to do, and the Current Fund shows a deficit of $1,774.02. There are for this two reasons, which should be noted here; first, with the fluctuations in student attendance, the receipts from room rent, laboratory fees, etc., have decreased as compared with the previous year by $3,000; secondly, the increased cost of materials and labor has necessitated an increase in expenditure of $1,000, making a total loss in the Current Fund as compared with the previous year of $4,000.

Coal.

It should be stated in this connection that, in October, the college at the suggestion of the State Purchasing Agent and the coal company obtained its supply of coal, usually laid in in January, paying for about one-half of the amount in that month. This expenditure of some $2,000 should really be reckoned in the expenditures of 1918. The amount of coal actually on hand, December 16, was about 400 tons of hard coal and 550 tons of soft coal, worth at a low estimate, $7,750. Of this amount $2,000 remained unpaid January 1. It was fortunate that we were able to obtain this coal under any conditions, as it is certain that we should not have been able to obtain any coal later, and the result would have been the closing of all operations in all departments.

Farm.

Another unusual financial situation was created in the agricultural department. In order to aid in the increase of food production, it was deemed advisable by your Board to lease for two years a neighboring farm of 275 acres, which would otherwise have remained uncultivated. The yearly rent agreed upon was $750 and the total expense of financing such operations as could be undertaken after April 1 was $2,650.99. This amount taken from current funds, of course, added to the unfavorable condition of that fund, and yet in view of the food emergency it seemed mandatory to take that course. The amount, however, is not in any sense a loss, since the crops obtained and now housed amount at a low valuation to $3,500. This amount will appear in the receipts of the current fund as soon as the crops are in condition to be disposed of. Meanwhile, the college will proceed to operate the farm to better advantage during the current year.

Boarding.

The Trust Fund is in worse condition than any of the others and shows an excess of expenditures over receipts of $3,221.25. All of this loss was incurred between January 1 and September 1, and was caused in large part by the fact that, as we had advertised the price of board for the year 1916-17 at $3.75 per week, your Board

determined that the price should not be increased during that year, notwithstanding that the phenomenal rise in the cost of provisions during the first six months of the year clearly indicated that the cost of furnishing the board would be considerably greater. A certain amount of temporary loss also was created by the fact that considerable numbers of books purchased for students through the bookstore were not taken by students leaving in the early part of the year. The amount of this temporary loss, which will be recovered later when the store material is sold, was $573.98, leaving of the total loss of $3,221.25, $2,647.27 as the amount attributable to the boarding department.

For the year 1917-18 the board deposit has been taken at four dollars per week, with the proviso that additional actual cost shall be added when incurred. Under this provision the actual cost of board for the first half-year has been found to be $4.50 per week, and that is what is now being paid.

It should, possibly, be explained that deposits for board are required quarterly in advance, and each quarter's deposit covers nine weeks. The second deposit occurs the last week in November and covers the months of December and January. While, therefore, the fund shows a balance of $36.82, it really lacks the amount necessary to cover the expenses of the month of January, 1918. It will be noted that, at the beginning of the year, the amount on hand for the expenses of the following January, 1917, was $3,221.25.

Building.

The only other fund that needs consideration is the Building Fund. Last year an appropriation was made of $85,000, of which $80,000 was for a new building for agriculture and home economics, $3,000 for replacing the poultry building, and $2,500 for the purchase of a truck. The poultry building was constructed and the truck bought. Plans also for the agricultural and home-economics building were carefully worked out. When, however, we came to consider construction, it appeared to your Board wise, in view of uncertainties of labor, of obtaining materials, and of steadily rising cost—in view also of the governmental demand, imperative in nature, for all structural material and skilled labor—to postpone actual building until a more favorable time. Hence there now re-

mains a balance in the State treasury of $79,697.54 to the credit of the Building Fund. It is hoped that the decision arrived at in this matter will be recognized as patriotic as well as wise and that it will not be allowed to prejudice judgment as to the reality of the need for the building, when the time shall arrive to call for the funds for its construction.

Recommendations.

(1) In the consideration of our financial condition and needs, it is important to note that in order to prevent or minimize deficits, it has been necessary to forego every expenditure that could possibly be deferred. This has been especially true of needed repairs and replacements of all kinds; they have been delayed in the hope that the General Assembly would grant an especial appropriation for the new year for the upkeep of the property. The need is shown even to the careless eye, as one goes over the campus and buildings. I have for submission a list of such repairs and replacements amounting to over $5,000, and I formally recommend that a request for that amount be placed before the General Assembly.

(2) It would seem that something should be done to aid the experiment station, and to cover the deficit in the current fund. It is true that, at the present time, this apparent deficit is covered by assets in the shape of coal and farm crops; yet I very seriously fear to start in on the new year with any kind of handicap as compared with the previous year. During the new year there is every reason to believe that the same actual amount of materials of every kind is going to cost a much larger number of dollars. Take coal as an example. There is no doubt in my mind that when we come next spring to lay in our usual stock of coal for the year following, we shall have to pay a much higher price than we paid for the coal we now have on hand, and the same thing is true of nearly everything else that we shall have to purchase. Labor of all kinds is higher this year than it was a year ago, so that anything like the same scale of operations for the year 1918 as for 1917 is inevitably going to mean larger cost. While the rented farm is going to return to the current fund a larger amount than it took away in 1917, yet the larger farm operations to be carried on in the year 1918 (because we have the benefit of an earlier start) will require for financing the new

year's crops all the funds that come back and probably more. To meet the whole situation I therefore recommend that an additional special maintenance fund of $5,000 be asked for.

New Fraternity House.

I have to report that the Delta Alpha Psi fraternity has completed and taken possession of the new house, construction of which was begun a year ago by means of a loan endorsed by the college. The house cost $10,000 and is a commodious and creditable home for the fraternity.

Scholarship from the Federation of Women's Clubs.

Through the president, Mrs. Horace G. Bissell, the State Federation of Women's Clubs placed in my hands the sum of $50 to be awarded as a scholarship for the year to the young woman student of the home economics department who, all things considered, seemed most deserving of the aid. This graceful act was highly appreciated by the administration of the college. The money was awarded to Miss Esther W. Peterson of Westerly.

Commencement.

Commencement was held at the scheduled time, June 18, 1917. The exercises were memorable for the fact that, for the first time, degrees were given in absentia, a large part of the class having enlisted. As the names of absentees were called, announcement was made of the duties being performed and necessitating absence. The degree of Master of Agriculture was bestowed upon Horace W. Tinkham of Warren, honoris causa. The Commencement address was given by President W. O. Thompson of Ohio State University, the subject being "Some American Ideals." The baccalaureate address, "The Evolutionary Struggle between Democracy and Despotism," was given by the undersigned.

All of which is respectfully submitted.

HOWARD EDWARDS,
President.

February 1, 1918.

REPORT OF THE CO-OPERATIVE EXTENSION WORK IN RHODE ISLAND, RHODE ISLAND STATE COLLEGE AND U. S. DEPARTMENT OF AGRICULTURE CO-OPERATING, FOR THE YEAR ENDING DECEMBER 31, 1917.

Dr. Howard Edwards, *President,*
Rhode Island State College, Kingston, R. I.

Dear Sir: The campaign for increased agricultural production in Rhode Island necessitated by the entrance of the United States into the World War, upset some of the plans for work of the Extension Service made earlier in the year. This was especially true of the organization projects of the county agents, which had to be dropped entirely on account of the large amount of miscellaneous work which came in, especially from amateur food producers. Along other lines, however, emergency work fitted in quite well with plans made and no changes were necessary except to drop out a few of the less essential features and emphasize more strongly the remainder of the projects.

Finances: The Extension work of the College has been supported financially very largely from Federal sources, and the following is a list of funds allotted for the fiscal year ending June 30, 1917:

Federal Smith Lever funds	$10,400 24
State Smith Lever funds, contributed by college	400 24
College funds	1,199 76
Federal funds from the regular appropriation for the Department of Agriculture available only for salaries:	
County Agent work	2,150 00
Club work	1,800 00

We also received a little additional money from the Department of Agriculture to be used in giving emergency assistance to the county agents and in club work during May and June.

For the Federal fiscal year beginning July 1st, we have an addition to the Federal Smith Lever funds, bringing it up to $10,582.17, and the College contribution is limited to $1,000. We have also entered into coöperation with the Department of Agriculture and the State Board of Agriculture in the appointment of a State Specialist in Dairying, and with the Department of Agriculture in the appointment of a State Specialist in Poultry Club Work, and a specialist who will give one-third of his time to the State for Sheep Extension Work. For the State Specialist in Dairying, the Bureau of Animal Industry, Dairy Division, contributes toward his salary, one thousand ($1,000) dollars, and the State College and State Board of Agriculture seven hundred fifty ($750) dollars each towards the remainder of his salary and his expenses. The Bureau of Animal Industry pays the entire salary of the Poultry Club Work Specialist and the Specialist in Sheep Husbandry, and the College pays traveling expenses.

August 16th, Congress appropriated to the Department of Agriculture a considerable sum of money to be used in enlarging the County Agent, Home Economics, and Boys' and Girls' Club Work in the various States. From the allotment of this fund made to Rhode Island we were enabled to employ one Home Economics agent for rural work in each Farm Bureau and three Home Economics demonstrators for work in the principal cities. The allotment for county agent work will enable us to pay for assistants to the county agents and in club work, an assistant State leader and five local leaders will be employed.

In connection with the Department of Agriculture funds, it is the policy of the Department to use such funds so far as possible only in the payment of salaries. They invariably adhere to this rule with regard to their permanent funds and they urge an acceptance on the part of the State of the same plan for Emergency Funds, although at present they do not always insist upon it. On account of the small amount of State funds that we have available for miscellaneous expenses, it is very difficult for us to comply with the requirements for coöperation with the Department; in fact, we have had an offer of not less than $2,700 for the past year which could not be accepted because we had no funds available which could be used for traveling and office expenses connected with the proposed work.

Equipment: The following additions to our equipment have been made during the year:

1 mimeograph	1 map fixture
2 letter files	1 typewriter

Changes in Personnel: March 1st, Mr. Myron A. Hawkins resigned as agronomist and Mr. George H. Baldwin was appointed to take his place. June 1st, Mr. S. N. Stimson resigned as county agent for the Southern R. I. Farm Bureau district, his resignation to take effect June 30. Mr. A. G. Skinner was appointed in his place and took up his work July 8. Mr. L. W. Lloyd was appointed county agent for Newport County and began his work July 1. Mr. Lyman Rodman served one month as assistant agent in the Providence County district, beginning April 18, and his place was taken May 24 by Mr. Howard A. Macrae, who is still acting. Mr. R. D. Taylor was appointed assistant in the Southern R. I. district, April 24, and has continued until the present time. David Elder resigned as agent in Providence County on November 1, and on December 26 E. L. Forrestall was appointed to fill the position. On emergency appropriations from the Department of Agriculture there was appointed, August 23, Miss Ada Harding, Miss Annie S. Hoxsie, Miss Grace Rieckel and Miss E. Hope Browne as assistants in Home Economics Work, and Mrs. M. A. Frazee as Assistant State Leader in Club Work. Miss Mildred Wood resigned as stenographer June 1, and her place was taken by Miss Margaret A. Wilcox. Miss Caroline Miller resigned as stenographer November 24, and her place has been taken by Miss Grace Read, who began work December 8, 1917. Miss Lucy H. Young was appointed filing clerk December 15, 1917.

Publications: On account of the fact that we have rather limited funds for printing, we have made it a practice to use whenever possible publications of the Department of Agriculture. Much of the literature of the Department this year has dealt with emergency work, and for this reason has been more readily adapted to our needs than is usual with literature that is intended for the entire country. Our own publications have been limited, as in the past, to small editions which are used in connection with Extension classes and to send out to people in response to inquiries.

Work with Projects: Project No. 1. Administration. The work in this project has been largely of a routine nature, such as assisting the different specialists in working out their plans, developing new projects, arranging for expenditures, auditing bills, etc. Considerable correspondence relating to Horticulture has been taken care of, a few orchard visits have been made, and the time to be devoted to the work of the Board of Agriculture has been given to regular weekly visits every Wednesday to the State House and to correspondence with reference to entomological and plant disease questions. Among the plans that have received attention in the extension field during the past year are:

(1) More detailed reports for the different lines of work; the reports being planned to present a more definite resume of the results achieved.

(2) A display fixture has been purchased which will be used for mounting State maps, one map for each main extension project. On these maps the work in each project will be graphically indicated with colored pins, so that the workers and others can readily see what is being accomplished and what sections of the State are reached. We are also trying to secure small maps of letter size of towns or definite sections of the State which can be used in making permanent reports of the localities in which the work is done. Material is also being collected which will be used in indicating on a large State map permanent data useful in connection with our work, such as the exact location of Grange halls, rural schoolhouses and churches, town halls, and town farms.

(3) Plans for a card index of farms have been made. Each farm will be represented by a card which will give the exact location of the farm, main lines of production and its present equipment. This index will be arranged by towns. A supplementary index classified according to chief lines of farming will be prepared for the specialists in the department.

(4) Extension work requires a great deal of miscellaneous information and in response to this need our filing system has grown to considerable proportions. Hitherto, this filing has been done as seemed best when additions to the filing system became necessary and without a carefully worked out plan. As a result, the filing is not very systematic and we cannot always readily find the material filed. Changes in stenographers have aggravated the situation,

since new workers had no guide to follow either in looking up old records or filing new material. A more definite system embracing the general filing of the office and the filing required for each special line of work carried on, is being worked out and when completed will be typewritten so that we will always have a guide for all our workers, but more particularly for new workers who will naturally at first have some difficulty in becoming acquainted with our methods of filing. The development of this plan will be facilitated by a filing clerk, who has just been appointed.

(5) Improving Extension Teaching. Extension teaching is a new field in educational endeavor, and so far the work has been done without much thought of basing it on pedagogical principles. We are building an educational structure for which we have the material, but neither definite plans nor specifications. The problem is similar to that encountered by agricultural colleges fifty years ago, except that they had the pedagogic forms and traditions of class room and laboratory teaching, but the material to be presented was lacking, or existed in an undeveloped form. One of the big aims in Extension teaching is to make the instruction effective in improving agricultural and home economics practice of the State and we are endeavoring to emphasize the achievement of tangible results through follow-up work rather than to devote all our time to initiating new projects or to reaching a large number of people in an indefinite way.

Project 2: The principal work of this project at the beginning of the year was the organization of the Newport County Farm Bureau. After considerable work interviewing people throughout Newport County, speaking before agricultural organizations, attending meetings of town councils and city budget committee and presenting the plan to town meetings, the work was successfully accomplished. Appropriations were secured from Newport and from all the towns in the county with the exception of Block Island. It was regarded at the beginning to be rather difficult to get appropriations from Block Island and the other towns agreed to contribute sufficiently to cover the amount required from Block Island so that in case that town did not support the matter, the completion of the organization would still be possible. The organization of the Farm Bureau itself was perfected March 16 at the Middletown town hall and the final appropriation necessary to make up the one thous-

and dollars required from local sources was made by Portsmouth on May 2. In this work the State Leader acknowledges invaluable aid from many Newport citizens, but especially from Mr. Burlingame, member of the College Board of Managers, who helped very materially in securing the appropriation from the city of Newport. Immediately following the completion of the local budget, the Farm Bureau took up the matter of selecting a county agent, and appointed Lester W. Lloyd, a graduate of the State College, then teaching in the Agricultural School at Segreganset, Mass.

According to a tentative plan adopted at the beginning of the year, the State Leader has given about one-third of his time to county agent work, one-third to general extension and one-third to Board of Agriculture work. Approximately, thirty-three days have been given to county agent work in the office. Fifty-nine days have been spent in the field. Twenty-three conferences have been held with county agents in their offices, and twenty-two farm bureau meetings have been attended. In addition, twenty-three other meetings at which Farm Bureau matters and county agent work have been under discussion have been attended in which the total attendance has been about one thousand, eight hundred and eleven.

The regular work of the Southern Rhode Island and Providence County Farm Bureaus was greatly broken up during the year by the emergency work which arose through the declaration of war. Plans have been prepared for thoroughly organizing both bureaus by securing active committees in the different towns or local centers, but this plan was practically abandoned on account of the great amount of miscellaneous work which came up in both bureaus. The agents took part along practically all lines of emergency work and coöperated with the Department of Agriculture, the College, the Commission of Agricultural Inquiry and the State Board of Agriculture. They also gave a good deal of assistance to the promotion of vacant lot gardening, helping to distribute seeds and fertilizers, organizing coöperative purchasing associations, etc.

The Newport county agent devoted his time very largely to a thorough canvass of his territory, getting acquainted with the farmers, making suggestions where possible, encouraging boys' stock judging and helping the Aquidneck Dairymen's Association to prepare plans for a coöperative milk distributing plant in the city of Newport, and in preparing preliminary plans for his own work the

coming season. A compilation of statistical material is available showing the connection of the county agents with work relating to crops, to live stock, to soils and soil fertility, farm homes and farm business, but space forbids making note of them here. Briefly, the agents from the three districts in the eleven months for two districts and five months for the third district, for which we have the statistics compiled, have spent 486 days in the field; 445 days in the office; have answered 2,623 telephone calls; have had 2,812 conferences with people who visited the office; have written 2,136 letters. Under regular project work they have made 945 farm visits; 91 demonstration visits; have held 13 demonstrations with an attendance of 154, and have held 67 other meetings with relation to projects, with an attendance of 1,799. Under their miscellaneous work they have made 135 farm visits and have held 187 meetings with an attendance of 8,881. They have travelled 16,602 miles by auto and 2,977 miles by rail.

Project 3: Home Economics. The work under this project has been continued by Miss Meloche, who had one assistant from July 16 to August 23 and since that time has had five assistants. The plan of work has been practically the same as in the past years, and has consisted of single lectures, demonstrations and extension classes running from six to ten weeks with one lesson each week to each class. Exhibits were made and demonstrations were held in connection with them at all the county and local fairs. Special emphasis has been placed on efforts to have the new methods taught adopted in the homes of those who receive the instruction, also to get those who attended classes so far as possible to pass on instruction to others who could not come to the classes. Up to November 15 the State Demonstrator had fifteen classes with an attendance of 3,724. She gave 24 food lectures with an attendance of 1,513; 12 food demonstrations with an attendance of 338; 38 canning demonstrations with an attendance of 953; made 12 home visits and had 8 conferences and committee meetings. Her assistants held 21 canning demonstrations with an attendance of 708; 2 food demonstrations with an attendance of 275; 16 single lectures with an attendance of 500. The total attendance at all of these classes and lectures amounted to 9,112. Several circular letters and articles for newspapers have been prepared and many letters of inquiry have been answered. That this work is appreciated can be gathered from

many letters which come in, of which this quotation from the letter of a woman, 55 years of age, who drove five miles each way to attend a class, will serve as an example:

"I was only able to come to class in Little Compton twice, but you do not know how much I enjoyed them. You have no idea what a treat for one of my age to have a chance to learn some new ways of doing my work. One gets so tired of the same old ruts, so please do come."

The last statement refers to a request from this woman to come and take charge of a canning class of nearly fifty which she had organized near her own home.

Project 4: Club Work. Club Work is a project which we believe will in the long run have far reaching effects in building a better agriculture for Rhode Island. It aims to give children definite interesting and profitable instruction in agricultural work outside of school hours; to inculcate in children of both city and country a more favorable attitude towards agriculture; to teach valuable lessons in agricultural production; to employ their leisure time profitably, and, finally, to make them better men and women and more useful citizens. Mr. E. K. Thomas has continued this work throughout the year, with some local assistance throughout the summer months. Mrs. Mabel Frazee was appointed Assistant State Leader to work the year around, beginning with September 1. Through the Club Work, and especially through the formation of Mother and Daughter Clubs, much assistance has been rendered to emergency work through promoting canning and other economics projects, and through Father and Son Clubs a large number of back yard gardens were successfully carried on throughout the summer. Rhode Island Club Work was represented in the Springfield Exposition Contest by twelve boys and girls, who won 44 prizes and several medals. During the year 301 clubs were organized; 293 began work and 291 completed their projects for the season; in all, 8,325 out of 9,409 boys and girls enrolled completed their work for the season. The value of club products at market rates amounted to $116,611.21, with a net profit to club members of $66,452.91. The supervision of this work cost the Department of Agriculture and the State College about 50 cents per club member. Another year we expect to have a larger number of workers hired with U. S. Department of Agricul-

ture Emergency Funds, and we confidently expect still more successful results.

Project 5: Agronomy. This work was carried on by Mr. Hawkins up to March 1 and since then by Mr. Baldwin. Demonstrations in Agronomy have dealt with the following crops: Alfalfa; silage corn; soy beans; the use of the Northern versus home grown seed potatoes. Work in soil testing; superintending fair exhibits; issuing news letters and the "Farm Bureau News" have also been handled by the agronomist. Considerable correspondence has been answered; several advisory trips have been made and some special emergency work has been attended to. In the work with alfalfa, the plan has been the same as in the past, simply to give those who wish to see whether they could grow the crop, assistance in making a fair trial. In one demonstration, alfalfa is compared with red clover, an accurate account being kept of all expenses and all returns. In silage corn, demonstrations have been narrowed down to three varieties, and from these two varieties have been selected for general recommendation in the different localities in the State.

Project 6: Poultry Husbandry. This work has been continued by Mr. Lambert and has included the following projects: "Home Reading Course", a series of ten mimeograph letters on current poultry topics; poultry lectures, given as a course or singly, as requested; judging demonstrations at fairs and poultry exhibitions; advisory trips and demonstrations, to assist poultry keepers with their problems; bacillary white diarrhoea tests to ascertain whether or not breeding fowls were infected with this disease; office correspondence and literature; answering inquiries and publishing News Letters for the encouragement of poultry keeping.

All these projects have been continued during the year. New correspondents have taken up the reading courses; 21 lectures were delivered; 11 judging demonstrations were given; 41 poultry yards were visited for advisory purposes; 4 flocks were tested for bacillary white diarrhoea; 14 News Letters or press bulletins have been sent out and several circular letters mailed to card indexed list of poultry raisers. All inquiries have been answered promptly, and when advisable U. S. Department of Agriculture bulletins sent to further explain matters. The poultry specialist has assisted to a considerable extent in Club work during the year, and October 14 he was transferred to give his entire time to Poultry Club work.

Project 7: Dairy Extension. Work under this project began July 1, with the appointment of Mr. R. B. Cooley as specialist in dairying. It was made possible through the coöperation of the U. S. Department of Agriculture and the State Board of Agriculture. The main lines of work under this project are as follows:

(1) Encouraging the keeping of better cows by weeding out the poor ones through systematic herd testing and by the introduction of pure-bred bulls and the raising of calves.

(2) Improvement in feeding dairy stock.

(3) Improvement in barns and better housing of dairy herds.

In pursuance of this plan, exhibits have been made at fairs; lectures have been delivered; stock judging demonstrations have been held for adults; and, in coöperation with the county agents and the state leader of club work, lessons in judging have been given to boys in the Southern Rhode Island Farm Bureau district and the Newport County district. The boys winning in local fairs were taken to Brockton for further instruction and finally to Springfield for competition in the Boys' Stock Judging work at the Eastern States Exposition. Assistance has been given to the county agent at Newport and the Aquidneck Dairymen's Association in planning for a co-operative milk distributing plant. A special trip to Block Island has been made in coöperation with County Agent Lloyd to plan for some dairy extension work in that town. A live stock survey and a card catalog of dairymen is also being planned.

Respectfully submitted,

A. E. STENE,

Director.

THIRTIETH ANNUAL REPORT

of the

Director of the Agricultural Experiment Station*

To Howard Edwards, *President,*
Rhode Island State College.

Sir: I submit hereby a brief reference to such experiments carried on during 1917 as will indicate the progress which has been made in the more important lines of work.

In such a report of progress it should be understood clearly that a point of view which now seems tenable may be subjected to considerable change as the work progresses. It is believed, however, that the public will appreciate brief annual statements of the indications afforded by the experiments.

Walter C. Irons, assistant in agronomy, and Howard A. Johns, assistant in chemistry, resigned in December for Federal military service. Mr. Johns had been in the employ of the station only since July.

The Weather. Detailed records, taken a mile distant from the experimental fields at about 130 feet higher altitude, may be found with the New England Climatological Data of the United States Weather Bureau. The average temperature during April was 3.0° and of May 6.8° below the normal for those months, or in other words the season was again very late. It was the coldest April during the 29 years of records at Kingston; the same was true of the temperature of September, October and November. On May 28 the greatest rainfall of the month anywhere in New England was 2.48 inches at Kingston, R. I. As late as May 26 the temperature fell to 28°, and the same low temperature was again reached as early as September 11, resulting in a period of only 108 days between severe frosts. Between July 15 and August 9 only .22 inch of water fell, resulting in the driest period of the season, and making

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*Contribution No. 242.

transplanting very difficult. No advantage of consequence resulted from irrigation except in connection with transplanting.

Publications. Those which have been issued since submitting the last annual report are as follows:

Coccidia in subepithelial infections of the intestines of birds. Jour. Bact., 1917, II, 1 (73-78).

Studies by means of both pot and solution culture of the phosphorus and potassium requirements of the barley plant during its different periods of growth. Bul. 169, Jan., 1917, 50 pp.

The part played by the goblet cells in protozoan infections of the intestinal tract. Jour. Med. Research, 1917, 36, 1 (n. s. 31, 1), pp. 79-86.

Note on the reaction of the paratyphoids, alpha and beta, in litmus milk. Jour. Bact., 1917, II, 3 (263-267).

Twenty-ninth annual report of the station. Bul. of Rhode Island State College XII, 4 (17-24).

The persistence of lawn and other grasses as influenced especially by the effect of manures on the degree of soil acidity. Bul. 170, April, 1917, 24 pp.

Analyses of feeding stuffs. Inspection Bul., May, 1917.

The case of trichomonas. Amer. Naturalist, 1917, 51 (209-224).

A plea for the standardization of reports of agglutination tests. Jour. Immun., 1917, II (463-467).

Reactions of the phosphorus of the thickened root of the flat turnip, *Brassica rapa*, L. Jour. Agr. Research, 1917, XI, 8 (359-370).

The value of Thomas slag phosphate for neutralizing soil as well as for supplying phosphorus. Bul. 171, June, 1917, 34 pp.

Analyses of commercial fertilizers. Inspection Bul., Oct., 1917.

Infections caused by *Bact. pullorum* in adult fowls. Bul. 172, Nov., 1917, 40 pp.

Organic Matter for the Soil. Four legumes were sown separately in 1916 after early potatoes to study their hardiness as winter cover crops and their value as green manures. In the spring of 1917 the winter vetch was dead, as in 1916; the alfalfa, sweet clover and mammoth clover came through the winter in very good condition. The largest yield of sweet corn followed the mammoth clover; the same was true of potatoes in 1916.

When a mixture of crimson clover, winter vetch and sweet clover was sown as a cover crop in field corn which is planted every year, the sweet clover was the only one which withstood the winter. Fifty-one bushels of corn per acre were obtained after a legume cover crop, 46 bushels following rye as a cover crop, and 40 bushels where no cover crop was used. Since 1914 two and a half times as much nitrogen had been added to the last two quarter-acres as to the legume area.

Raw muck used in comparison with stable manure to supply an equal amount of organic matter, in connection with fertilizer chemicals again proved inferior. When the muck was composted with hydrated lime, however, at the rate of about ten cords of muck to one ton of lime, instead of waiting for the slower action of lime in the soil, quite satisfactory results were obtained with early table beets.

In preparation for celery, part of an early crop of lettuce was sacrificed in order to grow a crop of oats and peas which was turned under as green manure; thirty-two tons of stable manure alone resulted in 5.31 tons per acre (627 dozen bunches) of marketable celery, whereas the oats, peas and fertilizer chemicals produced only 2.84 tons (440 dozen bunches). This was a much poorer relative yield than was obtained the previous year where the attempt was made to replace by oats and peas three-fourths of the organic matter of the manure. The manure was successfully reduced one-half, however, by supplementing with fertilizer chemicals. In preparation for early tomatoes, neither vetch, rye nor wheat had been sufficiently successful as cover crops to serve as satisfactory substitutes for stable manure.

Twice as large a yield of beans was obtained where stable manure instead of only fertilizer chemicals had been used continuously; again demonstrating that when the ground is used each year for market garden crops, and no special provision made for the introduction of organic matter, success cannot continue with the use of only fertilizer chemicals.

Efficiency of Fertilizers and Other Manures. The second year of grass after rye and rowen in rotations without farm manures and including corn and potatoes, produced 3.6 tons of hay, which yield remained practically unchanged by applying 50 pounds each of phosphoric acid and potash instead of 100 pounds. The third-year grass yielded 1.6 tons of hay where no nitrogen is added each year, 4.1 tons with 360 pounds of nitrate of soda, and 4.4 tons with 480 pounds. Under these conditions maximum crops of mixed timothy and redtop apparently may be secured by an annual dressing of about 350 pounds of nitrate of soda, 500 pounds of acid phosphate and 100 pounds of high-grade potash salt.

Oats and summer vetch used as a nurse crop yielded as much on the sulfate of ammonia plat as on the nitrate of soda plat, about 3.4 tons of hay.

By pot experiments the insoluble nitrogen in certain brands of fertilizers was found to be practically useless, and the nitrogen of garbage tankage was again found to be of low grade.

On the phosphate experiment the first crop of hay, seeded in the corn in 1916, consisted in general of about 75 per cent. of alsike clover. Although the after-effect of the different phosphates applied the preceding year was not sufficient to produce a maximum crop, there was no difference whether a given amount of money had been invested in raw rock phosphate or in acid phosphate, nor whether the same amount of phosphoric acid contained in the latter had been supplied in bone, Thomas slag or double superphosphate.

Mixed timothy and clovers sown the preceding year in silage corn yielded about 3.5 tons of hay regardless of whether top-dressed with fertilizer chemicals or with four cords of cow manure containing either straw or planer shavings as bedding.

Grass growing on soil from which potash had been withheld sufficiently so that only about half a crop was obtained, was increased a third by the addition of 240 pounds of common salt per acre. Potatoes grown on soil which proved to yield plenty of potash were not improved by the salt. It is only when the soil is deficient in available potash that salt should be expected to prove a useful supplement.

About as much winter wheat and rowen which followed were obtained in another case where no potash had been added for seven years as where it had been applied in different combinations. So-called American rock potash, prepared under the auspices of the U. S. Department of Agriculture by fusing ground feldspar with calcium chlorid, has been compared with sulfate of potash on the basis of water-soluble potash. The rock potash produced a slightly larger crop of potatoes than the sulfate of potash.

Where two tons of wood ashes per acre were applied for the purpose of supplying potatoes with a liberal amount of potash a very scabby crop was obtained, as was expected would be the case, owing to the alkalinity of the ashes.

In addition to 16 tons of stable manure for early cabbages, tomatoes and lettuce, 50 pounds of nitrogen, 150 of phosphoric acid and 25 of potash were applied in general. Especially where a larger application of nitrogen was used the yields were increased somewhat. Without additional stable manure, 30, 75 and 50 pounds,

respectively, of the above-mentioned ingredients were added before planting the second crops, beets, spinach and celery. Owing to the abnormally cold fall these late crops did not make a satisfactory growth.

Neutralization of Sour Soils. A new application equivalent to 4,500 pounds of magnesium limestone was made in a comparison of the different forms of lime. No positive crop differences developed where high magnesium limestone, high calcium limestone or the burned and hydrated products produced from them were added in quantities sufficient to neutralize the same amount of acid in the laboratory. There appears to be no reason for avoiding the magnesian products.

Indications were afforded by pot experiments that the lime in Thomas slag phosphate is about one-third as efficient as in the finest carbonate.

Largely by the continued use of sulfate of ammonia in place of nitrate of soda in the top-dressing for lawn grasses, soil acidity has been maintained to such an extent that weeds are eliminated; this was markedly shown during the past season in case of the troublesome crab grass.

It seems probable that much of the benefit from liming is due to the precipitation of aluminum from the soil solution. Laboratory and solution experiments at this station have shown that aluminum itself, aside from the acidity of its salts, is much more toxic to barley than to rye, thus affecting the two plants the same as do so-called acid soils.

The value of ground starfish was demonstrated not only as a source of nitrogen but of lime; it contained, when dry, 5 per cent. of nitrogen and 27 per cent. of calcium oxid.

Specific Plant Differences and Needs. In the silage corn variety test, Eureka produced 28.7 tons, Leaming 21.5 tons, Brewer's yellow dent 19.3 tons, and Ninety-day dent 18.8 tons. The last-named variety was planted five days later than the others; it stood second in 1916. The other varieties ranked the same in the two years.

The degree of benefit from liming four crops in a comparison increased in the following order, namely: escarole or broad-leafed Batavian endive, beans, onions, and sugar beets; in another comparison, barley, carrots, alfalfa and beets. Where spring vetch and

oats were used together as a nurse crop, the vetch was depressed much more than the oats by soil acidity. Barley and oats were grown to maturity in solutions to compare their nutrient requirements. The oats matured more slowly than the barley and produced slightly more straw and grain on a limited amount of phosphorus.

The following green weights of soy bean varieties for silage were obtained per acre, namely: Wilson 11.8 tons, Virginia 10.6, Hollybrook 10.2, Black Eyebrow 9.0, Medium Green 8.2, and Early Brown 8.0. The Hollybrook beans were the least mature. Especially yellowseeded varieties, which generally mature their seed sufficiently for planting if left unharvested for silage, and yet are satisfactory for the latter, will be compared. There is some demand for such beans also for human consumption.

Different varieties of early sweet corn which were replanted June 8 yielded from a given area as follows: The variety ready for picking Aug. 11 was the White Cory, 58 doz.; on Aug. 14, 30 doz. more of this variety were picked and the first of Quincy Market, only 9 doz. By Aug. 22, when the first picking of Golden Bantam was made, 143 doz., White Cory had produced 142 doz. and Quincy Market 136 doz. The first picking of Crosby's Early was not made till Aug. 24, 59 doz. The order of earliness was the same as in 1915 except that the last two varieties were reversed.

Among the best varieties of potatoes grown were the Cuban Multiplier, Pride of Vermont, Gold Coin, Norcross, and Lowell Green Mountain; each yielded over 300 bushels of marketable potatoes.

Effect of Crops on Each Other. A second year's crop of alsike clover following different crops was harvested. As in 1916 poor yields followed red clover and alsike clover; but an even poorer crop followed carrots, where the yield was also rather low in 1916. In both years the best yields of clover followed rye, redtop and squashes.

As was the case last year, 30 pounds of Eureka corn and a heavy seeding of Medium Green soy beans when planted together produced less green material, although probably more protein, than the corn when planted alone. This was not the case when half as much seed was used. Where a mixture of Eureka corn and Medium Green soy beans was planted at the rate of 15 and 22.5 pounds, respectively, a satisfactory silage mixture having about one-fifth weight of beans

was obtained. This same proportion of corn and beans was produced by planting separately seven-tenths of an acre of the corn and three-tenths of an acre of the beans at the rate of 30 and 45 pounds, respectively, resulting in 17.8 tons of corn and 3.2 tons of beans, that is, 21.0 tons of material per acre from 21 pounds of corn and 13.5 pounds of beans, whereas 19.6 tons of similar material were obtained from 15 pounds of corn and 22.5 pounds of beans when mixed. The rows in all cases were three feet apart.

Plant Propagation. With both Irish Cobbler and Green Mountain potatoes, two-ounce uncut "seed" was compared by planting 15 inches apart in the row, with about 1.25 oz. pieces from different-sized potatoes cut into two, three and four parts. The number of eyes, of course, decreased in the order named; the same proved to be true of the number of stalks and the yields. If the soil had not been sufficiently fertile to produce a yield of about 300 bushels of marketable potatoes from the uncut seed, this thicker planting might not have proved advantageous. About 250 bushels were obtained from the potatoes cut into three or four pieces.

With Green Mountain potatoes, uncut seed on which buds or sprouts were allowed to form before planting produced 304 bushels of marketable potatoes as compared with 242 bushels when not budded.

White Cap corn, selected differently, is being compared each year. No decided difference has yet appeared, whether the seed was selected (1) from areas where the backward tassels have been removed, (2) from the progeny of ears shown by the ear-to-row method to be large producers, or (3) from corn grown in the usual way and selected only by its appearance.

Inheritance Studies with Poultry. Evidence is at hand to demonstrate still more fully the fixation in certain families of the ability to lay eggs of high weight and size as an independently inheritable character.

In connection with the studies on the inheritance in plumage color, data have been secured to demonstrate the presence of factors for black pigmentation in the White Dorking breed of fowls. This forms the second instance of the latent presence of factors for black obscured by the inhibiting factors carried by the dominant white races of poultry. The first instance has been reported in the case of the White Leghorn.

With reference to the studies on the inheritance of body weight, the loss of many parent birds of the 1915 hatch required the postponement of the breeding for the first generation of cross-bred stock between the heavy (Cornish) and lightweight (Hamburg) types.

Studies on Immunity and Infection. The studies on methods of differentiating morphologically, culturally and biochemically between a group of organisms isolated from epidemics among poultry have been brought near completion. The results are calculated to have a bearing upon the methods of diagnosis of bacterial infections in birds and make possible a separation of types by certain biochemical and serological tests.

A study has been made of the relative toxicity of *B. avisepticus* and *B. gallinarum* cultures and reported upon. It was shown that the pathogenic activity of the former organism is in no way dependent upon its toxic action, while the pathogenic effects of infection with the latter have little to do with problems of virulence.

Studies have proceeded on the bacteriology of eggs under known conditions of infection (of the parent stock). The work has included the relation of egg-infection to the presence of antibodies in the blood, and also the relation between the latter and germicidal properties of egg albumen for the specific organism and related types.

Respectfully submitted,

BURT L. HARTWELL,
Director.

REPORT OF THE TREASURER.

R. S. Burlingame, Treasurer, *in account with the different funds of* Rhode Island State College, *for the year ending December* 31, 1917.

Morrill Fund of 1890 and Nelson Act of 1907.

1917.				
Jan. 1.	To balance on hand			$24,825 54
July 1.	United States warrant ending June 30, 1918			50,000 00
	By instruction	$42,605 82		
	Apparatus	1,054 95		
	Tools and machinery	164 94		
	Live stock	75 00		
	Feed	1,778 19		
	Text and reference books	438 98		
	Seeds	141 44		
	Chemical supplies	2,200 44		
	Fertilizer	22 40		
	Periodicals	412 10		
	Miscellaneous	548 21		
	Photos	17 09		
	Balance on hand	25,365 98		
		$74,825 54		$74,825 54

Morrill Fund, 1862.

1917.			
Jan. 1.	To cash from land script fund		$2,500 00
	By instruction	$2,500 00	
		$2,500 00	$2,500 00

Smith-Lever Fund of 1914.

1917			
Jan. 1.	To balance on hand		$5,553 86
July 1.	United States warrant year ending June 30, 1918		10,592 16
	By salaries	$7,718 92	
	Postage, telephone, telegraph	40 65	
	Seeds, plants	85 65	

	Stationery and printing	656 81	
	Traveling	1,848 20	
	Scientific apparatus	9 49	
	Furniture and fixtures	251 00	
	Labor	10 36	
	Tools and machinery	2 45	
	Contingent expense	28 05	
	Library and books	52 42	
	Publications	75 95	
	Balance on hand	5,366 07	
		$16,146 02	$16,146 02

STATE—MAINTENANCE FUND.

1917.			
Jan. 1.	To State appropriation		$40,000 00
	By salaries	$10,784 64	
	Labor (janitor, farm, etc.)	7,780 33	
	Traveling	1,115 15	
	Postage, stationery	1,795 81	
	Construction and repairs	3,451 98	
	Fuel	8,686 89	
	Feed	828 55	
	Rental of dormitories and land	1,534 32	
	Oil and gasolene	725 39	
	Telephone and telegraph	3 14	
	Commencement	361 33	
	Stable supplies and auto repairs	221 75	
	Furniture and fixtures	109 40	
	Horseshoeing	68 50	
	Janitor's supplies	125 33	
	Apparatus	48 21	
	Tools and machinery	39 95	
	Entertainment	23 10	
	Fertilizers	1,069 70	
	Seeds	238 38	
	Advertising	41 66	
	Miscellaneous	946 49	
		$40,000 00	$40,000 00

STATE—REPAIRS AND IMPROVEMENTS.

1917.			
Jan. 1.	To balance on hand		$3,490 22
	By water supply	$280 00	
	Main office	39 75	

Zoölogy	317 24	
Miscellaneous furniture	365 82	
Sewage system	36 08	
Chemistry department	1,733 72	
Fire	328 19	
Mechanical engineering	145 00	
Miscellaneous	244 42	
	$3,490 22	$3,490 22

Current Fund.

1917.				
Jan. 1.	To balance on hand			$713 93
	Reserve fund			2,000 00
	Dormitory fees			6,555 35
	Department fees			2,675 05
	Department sales			5,992 80
	Department service			1,769 27
	Interest			954 99
	Laboratory sales			2,130 27
	Laboratory fees			52 92
	Tuition			1,790 00
	Amount overdrawn			1,774 02
	By salaries	$3,810 95		
	Labor (janitor, farm, student, etc.)	7,623 12		
	Traveling	392 43		
	Postage, stationery, etc	713 57		
	Freight and express	424 34		
	Advertising in publications	1,382 57		
	Feed	598 24		
	Fuel	3,685 93		
	Entertainment	358 00		
	Construction and repairs	1,838 68		
	Telephone and telegraph	662 71		
	Oil	211 22		
	Apparatus	6 50		
	Horseshoeing	41 50		
	Stable supplies and auto	75 57		
	Furniture and fixtures	148 96		
	Tools and machinery	17 31		
	Horse labor	15 01		
	Rental of dormitories	884 85		
	Refunds	321 08		
	Miscellaneous	781 32		
	Live stock	66 50		
	Seeds	27 10		

	Laboratory supplies	12 44	
	Harness	275 00	
	Janitor supplies	14 60	
	Commencement	19 10	
	Reserve fund	2,000 00	
		$26,408 60	$26,408 60

TRUST FUND.

Jan. 1.	To balance on hand		$3,221 25
	Boarding receipts		32,245 19
	Store receipts		5,039 09
	By boarding	$35,056 79	
	Store	5,411 92	
	Balance on hand	36 82	
		$40,505 53	$40,505 53

HATCH FUND. EXPERIMENT STATION.

1917.			
Jan. 1.	To United States check for quarter		$3,750 00
	United States check for quarter		3,750 00
	United States check for quarter		3,750 00
	United States check for quarter		3,750 00
	Amount overdrawn		1,156 52
Dec. 31.	By debit balances from last year	$109 96	
	Salaries	6,248 71	
	Labor	4,006 84	
	Publications	1,501 75	
	Postage and stationery	197 43	
	Freight and express	130 50	
	Heat, light, water and power	276 71	
	Chemical supplies	57 21	
	Seeds and plants	722 40	
	Fertilizers	1,129 63	
	Feeding stuffs	841 71	
	Library	354 75	
	Tools, implements	137 10	
	Scientific apparatus	19 20	
	Live stock	10 00	
	Traveling expenses	30 76	
	Contingent expenses	20 00	
	Buildings and land	361 86	
		$16,156 52	$16,156 52

Adams Fund. Experiment Station.

1917.				
Jan. 1.	To United States check for quarter			$3,750 00
	United States check for quarter			3,750 00
	United States check for quarter			3,750 00
	United States check for quarter			3,750 00
	Amount overdrawn			1,646 35
Dec. 31.	By debit balance from last year	$777 11		
	Salaries	8,508 11		
	Labor	3,098 27		
	Postage and stationery	55 13		
	Freight and express	61 94		
	Heat, light, water and power	325 38		
	Chemical supplies	576 09		
	Seeds, plants and sundry supplies	305 25		
	Fertilizers	50		
	Feeding stuffs	1,990 29		
	Library	4 47		
	Tools and implements	330 21		
	Furniture and fixtures	99 97		
	Scientific apparatus	349 47		
	Live stock	76 34		
	Traveling expenses	6 49		
	Buildings and land	81 33		
		$16,646 35		$16,646 35

Miscellaneous Fund. Experiment Station.

1917.				
Jan. 1.	To balance on hand			$5,470 90
	Department sales			4,032 95
	Department service			299 88
	Interest			167 90
	By salaries	$252 58		
	Labor	877 76		
	Postage and stationery	43 41		
	Freight and express	118 48		
	Library	109 02		
	Tools and machinery	649 21		
	Scientific apparatus	428 47		
	Chemical supplies	101 45		
	Fertilizers	157 94		
	Heat, light, water and power	231 90		
	Live stock	575 00		
	Traveling	91 50		

Furniture and fixtures	20 25	
Buildings and land	353 85	
Seeds, plants and sundry supplies	232 01	
Feeding stuffs	616 29	
Contingent expense	21 45	
Balance on hand	5,091 06	
	$9,971 63	$9,971 63

SUMMARY OF FUNDS EXCLUSIVE OF EXPERIMENT STATION.

Total income, including balances:			
United States—1890	$74,825 54		
United States—1862	2,500 00		
United States—1914	16,146 02		
		$93,471 56	
State:			
Maintenance	$40,000 00		
Repairs	3,490 22		
		$43,490 22	
Institution:			
Current	$24,634 58		
Trust	40,505 53		
		$65,140 11	
			$202,101 89
Total expenditures:			
United States—1890	$49,459 56		
United States—1862	2,500 00		
United States—1914	10,779 95		
		$62,739 51	
State:			
Maintenance	$40,000 00		
Repairs	3,490 22		
		$43,490 22	
Institution:			
Current	$26,408 60		
Trust	40,468 71		
		$66,877 31	$173,107 04
			$28,994 85

Balance held as follows:

Morrill fund—1890	$25,365 98	
Smith-Lever fund—1914	5,366 07	
Trust fund	36 82	
Current deficit	1,774 02	
		$28,994 85

I hereby certify that the above is correct and true, and truly represents the details of expenditures for the period and by the institution named.

R. S. BURLINGAME,
Treasurer.

This is to certify that we, the undersigned, auditing committee of the Board of Managers of Rhode Island State College, have examined the accounts of R. S. Burlingame, treasurer of the said college, and find the same correct.

THOMAS G. MATHEWSON,
CHARLES ESTES,
Auditors.

APPENDIX A.

Summaries Dealing with Certain Phases of Receipts and Expenditures for the Year Ending June 30, 1917.

Summary for Year.

Balance on hand July 1, 1916	$35,744 92
Total income during year	201,394 22
Total	$237,139 14
Total expenditures during year	215,827 34
Balance on hand June 30, 1917	$21,311 80

Income.

Income from students:		
Tuition fees	$2,017 50	
Matriculation and incidental fees	2,924 75	
Chemicals and laboratory supplies	2,340 22	
Dormitory fees	6,401 07	
Dining hall	34,401 08	
Store sales	8,028 91	
		$56,113 53
Income from State and Nation:		
State—Maintenance appropriation	$40,000 00	40,000 00
Federal—Morrill Act of 1890 and Nelson Act of 1907	50,000 00	
Morrill Act of 1862	2,500 00	
Hatch Act of 1887—Experiment Station	15,000 00	
Adams Act of 1906—Experiment Station	15,000 00	
Smith-Lever Act of 1914—Extension Service	10,400 24	
		$92,900 24

Income from other sources:			
Sales and service of departments		$7,611 85	
Interest		1,228 97	
Experiment Station—Sales and service	$3,370 96		
Interest	168 67		
		3,539 63	
			$12,380 45
Total income			$201,394 22
Receipts from tuition:			
Students taking course of one year or more			330
Students paying tuition (non-resident in Rhode Island) at rate of $30 per year			77
Amount of tuition paid			$2,017 50

EXPENDITURES.

Expenditures, exclusive of Experiment Station and Extension Service:			
Advertising		$1,111 53	
Apparatus		1,731 64	
Boarding		36,554 80	
Books and periodicals		773 34	
Commencement		447 10	
Construction and repairs		15,143 33	
Dormitory rental		2,227 76	
Entertainment		358 42	
Feed		3,398 41	
Fertilizer		1,106 60	
Freight and express		502 63	
Fuel		10,412 36	
Gasolene		828 83	
Labor (engineers, poultrymen, farm, etc.)		9,951 45	
Labor (undergraduate, exclusive of boarding department)		5,764 08	
Laboratory supplies		2,444 44	
Live stock		98 25	
Postage, stationery and printing		2,171 57	
Refunds		343 33	
Salaries		60,174 63	
Seeds		302 10	
Store		8,036 86	
Telephone and telegraph		704 87	
Tools and machinery		472 33	
Traveling		1,555 23	
Miscellaneous		3,271 80	
			$169,887 69
Expenditures, Experiment Station			34,547 25
Expenditures, Extension Service			11,392 40
Total expenditures			$215,827 34

Summary of Balances, July 1.

	1916.	1917.
Morrill Fund of 1862	.....	.....
Morrill Fund of 1890	$708 64	.....
Smith-Lever Fund, Extension Service	.....	.....
Hatch Fund, Experiment Station	.....	.....
Adams Fund, Experiment Station	.....	.....
State—Maintenance	13,338 99	15,797 75
State—Repairs and Improvements	9,525 00	314 42
Current Fund	6,882 86	3,079 49
Trust Fund	Dr. 475 80	Dr. 2,637 47
Miscellaneous—Experiment Station	3,765 23	2,757 61
Reserve Fund	2,000 00	2,000 00
Totals	$35,744 92	$21,311 80

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